

Food wrap cutter

BACKGROUND OF THE INVENTION

Field of the Invention

The present invention relates to a food wrap such as a PVC wrap or an aluminum foil for storing food and a kitchenware for easily accessing and cutting the food wrap.

Description of the Related Art

To assure the freshness of food, prevent food from being contaminated, or cook food by baking, it is common to use food wraps to wrap food in household life or even in restaurants. In general, a food wrap usually includes a film made by PVC material or an aluminum sheet; regardless of PVC or aluminum, the food wraps are manufactured and packed in rolls and stored in a paper box for selling. Such paper box comes with a cutter with sawteeth; the wrap is pulled out to a desired length when it is in use, and the cutter will cut the food wrap. However, users have to hold the food wrap by one hand and the food or kitchenware by another hand for the sealing or packaging operation, and thus it is very inconvenient.

To overcome the aforementioned shortcoming, a so-called Food Wrap Cutter was introduced in the market, and the structure of a food wrap cutter is characterized in that the cutter has a main body with a transversally moving cutter, and the food wrap or aluminum foil is placed inside the main body; after the wrap or foil is pulled out to a desired length, the user manually operates the cutter to move it transversally for cutting the wrap or foil. However, such traditional food wrap cutter still has its shortcomings because when the wrap is completely pulled out and cut by the cutter on one side, the stress is not even and the cutting end of the wrap will be softened and drooped without support, which will directly affect the evenness of the cutting, particularly for the thin and soft food wrap. When manually cutting the food wrap by the cutter transversally, the cutting end of the food wrap will curl and affect the evenness of the cutting since the width of the wrap is about 8~22 inches and the stress

is uneven. In other words, a food wrap (particularly when a plastic food wrap is cut) usually produces curls, wrinkles, or tangles; users have to use hands to reorganize or spread out the food wrap. Whiling reorganizing or spreading out the food wrap by hands, the food wrap may be contaminated by foreign substances or germs on the user hands. When food is wrapped by such food wrap, the food may get soured or rotten easily.

Further, traditional food wrap cutters have linearly arranged sawteeth with equal heights. The design of sawteeth with equal heights causes the food wrap to have several cutting actions by the sawteeth simultaneously when the food wrap is cut from left to right or from right to left, such that the force exerted from each sawtooth onto the food wrap is reduced. As a result, the food wrap cannot be pierced easily for cutting, and it is necessary to use larger force to complete the cutting. Furthermore, the cut end is usually not even. Therefore, traditional food wrap cutters still need further improvements.

Summary of the Invention

The primary objective of the present invention is to overcome the inconvenience of placing a food wrap in a package box for its direct use.

The secondary objective of the present invention is to overcome the shortcoming of traditional food wrap cutters, including its uneven cut end due to the uneven stress of the cutting and the cutting end of the wrap is softened and drooped without support, which directly affects the evenness of the cut or even the smoothness; and the cut end generally has curls or wrinkles and thus it is inconvenient for cutting and packaging.

The third objective of the present invention is to overcome the shortcoming of traditional food wrap cutter that cannot cut the food wrap successfully and evenly.

Technical measures taken to solve the foregoing problems are described as follows:

The first technical measure taken is to set and fix a cutter transversally on a main

body; when the food wrap is pulled out from the main body and attached along the whole cutter, external force is exerted to cut the food wrap.

The second technical measure taken is to improve the sawtooth structure of the cutter, which includes a plurality of sawteeth with different heights arranged in intervals to make the cutting of food wrap much easier.

The third technical measure taken is to include an upper panel and a lower panel; such upper and lower panels can control their ascending and descending movements. When the upper and lower panels are ascending, the lower panel covers the rear side of the cutter to protect the user hand from being cut while pulling out the food wrap. When the upper and lower panels are descending, the upper edge of the lower panel moves to a position lower than the cutter, and the upper panel will press on the food wrap to fix the food wrap in a position.

The fourth technical measure taken is to control the abovementioned ascending and descending movements of the upper and lower panels by using both hands to simultaneously press or release a guiding element each on both sides of the food wrap cutter.

Compared with the prior arts, the present invention achieves the first objective by cutting the thin and soft food wrap or aluminum foil evenly and smoothly. The present invention achieves the second objective by conveniently pulling out, cutting, and positioning the food wrap. The present invention achieves the third objective by providing a safe protection design, and cover the rear side of the blade of the cutter before the food wrap is pulled out in order to prevent the user hand from being cut when the food wrap is pulled from the rear end towards the front.

BRIEF DESCRIPTION OF THE DRAWINGS

Other features and advantages of the present invention will become apparent in the following detailed description of the preferred embodiments with reference to the accompanying drawings, in which:

FIG.1 is a perspective diagram of the overall appearance of the present

invention.

FIG.2 is a perspective diagram of the present invention when the upper panel is removed.

FIG.3 is a perspective diagram of the disassembled parts of the present invention.

FIG.4 is cross-sectional diagram of the side view of the assembled structure of the present invention.

FIG.5 is a cross-sectional diagram of the guiding element being assembled to the axle rod but not being pressed according to the present invention.

FIG.6 is a cross-sectional diagram of the guiding element being assembled to the axle rod and pressed to lift the lower panel according to the present invention.

FIG.7 is a cross-sectional diagram of the guiding element not being pressed such that the lower panel is located at the lower section according to the present invention.

FIG.8 is a cross-sectional diagram of the guiding element being pressed to lift the lower panel according to the present invention.

FIG.9 is a cross-sectional diagram showing the upper edge of the lower panel is lower than the upper edge of the cutter, and the upper and lower panels are used to fix the food wrap in a position according to the present invention.

FIG.10 is a cross-sectional diagram showing the side view of the upper edge of the lower panel being higher than the upper edge of the cutter such that the upper and lower panels are separated to facilitate the pulling out of the food wrap.

FIG.11 is a perspective diagram of part of the serrations of the cutter according to the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

To make it easier for our examiner to understand the objective of the invention, its structure, innovative features, and performance, we use a preferred embodiment together with the attached drawings for the detailed description of the invention.

Please refer to FIGS. 1 and 2. The food wrap cutter of the present invention

comprises: a base body 14 disposed at the front of a main body 1; an upper panel 6 disposed above the base body 14; a cutter 5 secured at the front end of the base body 14, a guiding element 2 each disposed on both ends of the base body 14; a side board 3 each disposed on both sides of the main body 1 for sealing main body 1.

5 Please refer to FIG. 3 for further illustration of the detailed structure of the present invention. In the figure, a main body 1 is a box having a hollow space therein, and the interior of the main body 1 is partitioned into an upper space 101 and an lower space 102 by a partitioning board 10 for accommodating two different kinds of food wraps such as a PVC wrap and an aluminum foil; a slot 13 connected to the
10 foregoing hollow space is disposed in the front sidewall of the main body 1; a base body 14 is coupled on the external sidewall of the main body 1 below the slot; a circular axle rod 141 is disposed respectively on both ends of the base body 14, and the end of each axle rod 141 has a central axis parallel to the axle rod 141 and a guiding hole 142 with an appropriate depth; and the upper surface of the base body
15 14 is preferably a convex curved surface. A pip 11 is disposed at an appropriate position on both sides of the front wall of the main body 1, and the pip 11 in this preferred embodiment is a cylindrical body having an integrally formed head with a larger diameter similar to a nail. Both sides of the main body 1 form hollow spaces for storing the food wraps. A latch hole 12 is disposed respectively on the upper and
20 lower surfaces proximate both sides of the main body 1, and a protrusion 32 corresponsive to such latch holes 2 are disposed respectively on the upper and lower ends of a side board 3; after the food wrap is placed, the side board 3 may be bent slightly to insert the upper and lower ends of the protrusion 32 into the upper and lower ends of the latch hole 12, and the side board is used to seal both sides of the
25 main body 1. When the food wrap is exhausted and needs refills, a cylindrical object is used to press the protrusion 32 down from the latch hole 12 at the upper section of the main body 1 to bend and remove the side board 3. An axial pillar 31 is disposed on the inner surface of the side board 3, and such axial pillar 31 is used to connect both ends of the rolled food wrap to facilitate the rolling of the food wrap inside the
30 main body 1.

The present invention further comprises two guiding elements 2, two springs 26, a lower panel 4, an upper panel 6, and a cutter 45. A first hole 21 and a second hole 22 are disposed respectively on both ends of the guiding element 2, and the first and second holes 21, 22 have different diameters, but the interior of the guiding element 2 is connected with each other. The internal diameter of the second hole 22 is substantially corresponsive to the diameter of the axle rod 141. After the first spring 26 is placed into the second hole 22 and the axle rod 141 is passed into the second hole 22 and a wedge axle 25 is passed from the first hole 21 into the guiding element 2 and through the spring 26 into the guiding hole 142, so that the guiding element 2 is mounted onto the axle rod 141. In the meantime, the spring 26 is located between the end of the axle rod 141 and the bottom of the second hole 22. The axle rod 141 passes into the second hole 22 by adopting the sliding method so that the axle rod 141 can axially move between the guiding elements 2. A protruded base 24 is disposed on the rear side at the same ends of the guiding element 2 and the first hole 21, and such protruded base 24 has a horizontal guiding groove 241. The front sidewall of the guiding element 2 integrally forms a guiding wedge 23. When the guiding element 2 is pressed towards the base body 14, the spring 26 (as shown in FIG. 5) is compressed; when the guiding element 2 is released, the elasticity of the spring 26 resumes the original position of the guiding element 2 (as shown in FIG. 6).

The lower panel 4 is substantially in the shape of a rod, and both ends have larger area, and a cam groove 41 is disposed in the section with a larger area. The cam grooves 41 on both ends of the lower panel 4 are symmetrical, and each cam groove 1 is provided respectively for passing the guiding wedge 23 of the guiding element 2 for the assembly. When the spring 26 is not compressed, the guiding wedge 23 is located at a high point 411 of the cam groove 41 (as shown in FIG. 7). When the guiding element 2 is pushed to compress the spring 26, the guiding wedge 23 moves along the cam groove 41 and pushes the lower panel 4 upward (as shown in FIG. 8).

The cutter 5 of the present invention has a series of sawteeth sets at the upper edge of the main body 1, and each set of sawteeth respectively has different heights.

For example, the cutter of the present invention as shown in FIG. 11 has at least three kinds of sawteeth: high sawteeth 51, mid sawteeth 52, and low sawteeth 53 of different heights disposed at the upper edge of the cutter 5; wherein a plurality of high sawteeth 51 are arranged into a set of high sawteeth; a plurality of mid sawteeth 52 are arranged into a set of mid sawteeth; and a plurality of low sawteeth 53 are arranged into a set of low sawteeth. The sets of sawteeth are arranged in ascending order and then in descending order such that when the food wrap is cut linearly in the top-down direction, the food wrap is cut by the high sawteeth 51 first and then the mid sawteeth 52 and the low sawteeth 53 in order. The food wrap can then be cut smoother and even, totally eliminating the curling and tangling problems. A plurality of insert wedge 54 are disposed on a side of the cutter 5, and these insert wedge have a diameter slightly larger than the wedge hole 143 on the front wall of the base body 14, such that these insert wedges 54 are pressed into these wedge holes 143 to mount the cutter 5 onto the base body 14.

The upper panel 6 of the present invention comprises a vertical section 62 and a horizontal section 61 coupled to form a L-shape structure, and both sides of the vertical section 62 have a vertical groove hole 621 and an enlarged hole 622 disposed at the lower end of the vertical groove hole 621 such that the pip 11 of the main body 1 can pass through the enlarged hole 622 and slides the pip 11 into the vertical groove hole 621 such that the upper panel 6 can relatively moves vertically with respect to the main body 1. The lower surface of the horizontal section 61 preferably has a concave curved surface 611 corresponding to the curvature of the upper surface of the base body 14.

Please refer to FIG. 4 for the assembled structure of the present invention. In the figure, it simultaneously shows that the upper and lower spaces in the main body 1 can respectively store two different kinds of food wraps 7. Please also refer to FIG. 9. After the food wrap 7 is pulled out from the slot 13 and passes through the guiding groove 241 of the guiding element 2 and between the upper surface of the base body 14 and the horizontal section 61 of the upper panel 6, and then passes through the lower panel 4 and the cutter 5. FIG. 9 shows that the guiding element 2 of the present

invention is not compressed by external forces, the upper end of the lower panel 4 is lower than the upper edge of the sawteeth of the cutter 5, while the horizontal section 61 of the upper panel 6 proximate the upper surface of the base body 14 presses and fixes the food wrap 7 in a position and keeps the food wrap 7 from withdrawing into the main body 1. If it is necessary to pull out the food wrap 7, the user needs to push the two guiding elements 2 to axially move them nearer by both hands, and uses the movement of the guiding wedge 23 in the cam groove 241 to push the lower panel 4 upward, so that the upper edge of the lower panel 4 is higher than the upper edge of the sawteeth of the cutter 5. Such arrangement allows users to pull out the food wrap 7 towards the cutter 5 and prevents the user hand from being cut by the cutter 5. During the moving process of the guiding element 2, the aslant surface 240 of its protruded base 24 is used to push the upper panel 6 upward, so that the lower surface of the upper panel 6 is separated from the upper surface of the base body 14 (as shown in FIG. 10) to facilitate the pulling of the food wrap 7.

While the present invention has been described in connection with what is considered the most practical and preferred embodiment, it is understood that the invention is not limited to the disclosed embodiments but is intended to cover various arrangements included within the spirit and scope of the broadest interpretation and equivalent arrangements.